WHAT IS CLAIMED IS:

1. A switch, comprising:

   a) a switching fluid;

   b) a substrate having internal and external metal layers separated by at least an insulating layer; the external metal layer comprising a first plurality of signal conductors, at least some of which are in contact with the switching fluid; the insulating layer comprising a first plurality of vias; the internal metal layer comprising a second plurality of signal conductors, electrically coupled to the first plurality of signal conductors by the first plurality of conductive vias; and

   c) a lid, attached to the substrate to encapsulate the first plurality of signal conductors between the lid and the substrate.

2. The switch of claim 1, wherein the external metal layer of the substrate further comprises a ground trace, and wherein the lid is conductive and is attached to the ground trace.

3. The switch of claim 2, wherein the lid is soldered to the ground trace.

4. The switch of claim 2, wherein the lid is attached to the ground trace via a conductive adhesive.

5. The switch of claim 2, wherein the ground trace follows the perimeter of the lid.

6. The switch of claim 1, wherein the external metal layer further comprises a number of ground conductors, adjacent either side of at least those of the first plurality of signal conductors in contact with the switching fluid.

7. The switch of claim 6, wherein the lid is conductive, and wherein the ground conductors are electrically coupled to the lid.

8. The switch of claim 1, wherein:

a) the external metal layer further comprises a plurality of contacts, exterior to the lid; and

b) the insulating layer further comprises a second plurality of conductive vias coupling the second plurality of signal conductors to the plurality of contacts.

9. A switch, comprising:

a) first and second mated substrates defining therebetween at least portions of a number of cavities, the first substrate comprising first and second metal layers separated by at least an insulating layer;

b) a switching fluid, held within one or more of the cavities, that is movable between at least first and second switch states in response to forces that are applied to the switching fluid;

c) a lid, attached to the first metal layer and covering at least a portion of the second substrate; and

d) a first plurality of signal conductors formed in the first metal layer, in contact with the switching fluid; and a second plurality of signal conductors formed in the second metal layer, extending under the lid, and electrically coupled to the first plurality of signal conductors by a plurality of conductive vias formed in the insulating layer.

10. The switch of claim 9, wherein:

a) the second substrate is a channel plate; and

b) the one or more cavities holding the switching fluid are at least partly defined by a bent switching fluid channel in the channel plate.

11. The switch of claim 10, wherein:

a) one of the signal conductors presents within the cavity defined by the bent switching fluid channel, at the bend; and

b) different ones of the signal conductors present within the cavity defined by the bent switching fluid channel, on either side of the bend.

12. The switch of claim 9, wherein the first metal layer of the substrate further comprises a ground trace, and wherein the lid is conductive and is attached to the ground trace.

13. The switch of claim 12, wherein the lid is soldered to the ground trace.

14. The switch of claim 12, wherein the lid is attached to the ground trace via a conductive adhesive.

15. The switch of claim 12, wherein the ground trace follows the perimeter of the lid.

16. The switch of claim 9, wherein the first metal layer further comprises a number of ground conductors, adjacent either side of each of the first plurality of signal conductors.

17. The switch of claim 16, wherein the lid is conductive, and wherein the ground conductors are electrically coupled to the lid.

18. The switch of claim 9, wherein:
    a) the first metal layer further comprises a plurality of contacts, exterior to the lid; and
    b) the insulating layer further comprises a second plurality of conductive vias coupling the second plurality of signal conductors to the plurality of contacts.

19. A switch, comprising:
    a) a switching element;
    b) a substrate having internal and external metal layers separated by at least an insulating layer; the external metal layer comprising a first plurality of signal conductors, at least some of which are in

contact with the switching element; the insulating layer comprising a first plurality of vias; the internal metal layer comprising a second plurality of signal conductors, electrically coupled to the first plurality of signal conductors by the first plurality of conductive vias; and

c) a lid, attached to the substrate to encapsulate the first plurality of signal conductors between the lid and the substrate.

20. The switch of claim 19, further comprising an adhesive between said lid and said substrate.